

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
Group Art Unit 3654

In re

Patent Application of

Michael E. Kasten, Jr., et al.

Application No. 10/502,067

Confirmation No. 8571

Filed: September 12, 2005

Examiner: Eric E. Pico

“SAFETY BELT SYSTEM FOR WHEELCHAIR  
LIFTS”

**APPEAL BRIEF**

Mail Stop Appeal Brief-Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Appellant appeals from the final Office Action mailed May 8, 2008 (hereinafter, the “Final Office Action”), rejecting claims 1-24 of the present application. Claims 1-24 are appealed herein. A Notice of Appeal was filed on August 5, 2008. This Appeal Brief is being filed within two months of filing of the Notice of Appeal, accompanied by the necessary fees. Please charge or credit any under or overpayment of the fees associated with this filing to deposit account number 50-1965.

**I. REAL PARTIES IN INTEREST**

The real party in interest is The Braun Corporation, located at 631 West 11<sup>th</sup> Street, Winamac, Indiana, 46996.

**II. RELATED APPEALS AND INTERFERENCES**

None.

**III. STATUS OF CLAIMS**

Claims 1-24 are pending in the present application. Claims 1-24 stand rejected as set forth in the final Office Action mailed May 8, 2008. Claims 1-24 are appealed.

**IV. STATUS OF AMENDMENTS**

No amendments have been filed subsequent to the mailing of the Final Office Action.

**V. SUMMARY OF THE CLAIMED SUBJECT MATTER**

37 CFR 41.37(c)(1)(v) requires this Appeal Brief to include a section entitled “Summary of claimed subject matter” that includes “[a] concise explanation of the subject matter defined in each of the independent claims ... which shall refer to the specification ... and to the drawing[s].” Applicants’ explanation in accordance with 37 CFR 41.37(c)(1)(v) is set forth below; however, for the sake of brevity and clarity, it should be appreciated that Applicants have not recited each and every mention of or reference to a specific claim element that may be found in the specification and drawings. Accordingly, the features and structure identified below in Applicants’ effort to comply with the procedural requirements of 37 CFR 41.37(c)(1)(v) should not be regarded as limiting the claims or individual claim elements to any of the specific embodiments identified in the specification. (*See*, Application at p. 4, lines 4-9 and 24-30).

**A. Independent Claim 1**

Independent claim 1 is directed to an assembly (10) capable of moving a passenger from a first surface to an adjacent second surface wherein the surfaces are located at different vertical levels (p. 2, lines 26-31; p. 5, lines 1-3, 28-31), the assembly comprising:

an electrical system (210) (p. 8, line 24 – p. 9 line 3);

a platform (22) moveable to transport the passenger between the surfaces (p. 5, lines 28-31), the platform (22) having an inboard end (I = inboard direction, Fig. 2), an outboard end (O = outboard direction, Fig. 2), and two opposing sides (28), the inboard end closer to the first surface than the outboard end (p. 5, lines 3-5; p. 6, lines 23-26);

an arm (any of: vertical arms 20, upper arms 88, or lower arms 90) coupled to the platform (22) and to the first surface (p. 6, lines 3-8), the arm moveable to transfer the platform (22) between the surfaces (p. 5, lines 11-14, 28-31);

a passenger support (handrails 42) located above the platform (22) (p. 7, lines 10-17);

a safety restraint system (200) coupled to the passenger support (42) (p. 7, lines 18-26), the safety restraint system (200) comprising:

a belt (202) coupled to the passenger support (42) in a first location (p. 7, lines 19-20);

a buckle (204) releasably engagable with the belt (202) and coupled to the passenger support (42) in a second location (p. 7, lines 19-26);

a current path (switch 230) having an open state and a closed state defined in part upon the releasable engagement between the buckle (204) and the belt (202) (p. 8, lines 5-10), the current path closed upon engagement between the buckle (204) and the belt (202) (p. 7, lines 26-29; p. 8, lines 5-8); and

a motive source (12, also “drive means” 220) coupled to the electrical system (210) (p. 5, line 31 – p. 6, line 2; p. 9, lines 2-5) and operable to move the arm (20, 88, 90) (p. 5, lines 28-31; p. 9, lines 8-10), the motive source incapable of initiating movement of the arm (20, 88, 90) when the current path (230) is open (p. 8, lines 19-21; p. 9, lines 21-23) and capable of initiating movement when the current path is closed (p. 9, lines 24-31; p. 10, lines 19-23; p. 11, lines 12-15), the motive source capable of continuing movement of the arm regardless of the current path state within the buckle once movement is initiated (p. 9, line 31 – p. 10, line 5; p. 10, lines 19-25; p. 11, lines 15-17).

#### **B. Independent Claim 11**

Independent claim 11 is directed to a safety restraint system (200) usable with an electrically operated lift system (10) (p. 7, line 18), the safety restraint system (200) comprising:

a belt (202) (p. 7, lines 18-19); and

a buckle (204) releasably engagable with the belt (202) (p. 7, lines 19-21) and having a current path (switch 230) defined within the buckle (204) and coupled to the electrically operated lift system (p. 7, lines 26-27; p. 9, lines 16-19), the current path (230) having an open state and a closed state defined in part upon the releasable engagement between the buckle (204) and the belt (202) (p. 8, lines 5-10), the current path (230) closed upon engagement between the buckle (204) and the belt (202) (p. 7, lines 26-29; p. 8, lines 5-8), the electrically operated lift system (10) incapable of initiating movement when the current path (230) is open (p. 8, lines 19-21; p. 9, lines 21-23) and capable of initiating movement when the current path (230) is closed (p. 9, lines 24-31; p. 10, lines 19-23; p. 11, lines 12-15), the electrically operated lift system (10) capable of continuing movement regardless of the current path state within the buckle (204) once movement is initiated (p. 9, line 31 – p. 10, line 5; p. 10, lines 19-25; p. 11, lines 15-17).

### **C. Independent Claim 15**

Independent claim 15 is directed to a lift (10) mountable onto a vehicle for transporting a passenger between the floor of the vehicle and the street (p. 2, lines 26-31; p. 5, lines 1-3, 28-31), the lift (10) comprising:

- a platform (22) coupled to the vehicle and moveable between the floor and the street (p. 5, lines 28-31), the platform (22) having an inboard and an outboard end (I = Inboard, O = Outboard, see Fig. 2), the inboard end (I) closer to the floor than the outboard end (O) (p. 5, lines 3-5; p. 6, lines 23-26);

- a linkage (“parallelogram type lifting mechanisms” 14) defined in part by two arms (any of: vertical arms 20, upper arms 88, or lower arms 90), pivotally coupled between the platform (22) and the floor (p. 5, lines 12-14; p. 6, lines 3-8);

- an electrically operated drive system (12, also “drive means” 220) coupled to the linkage 14 and actuatable to move the linkage (14) (p. 5, line 28 – p. 6, line 2; p. 9, lines 2-10);

- a pair of handrails (42) coupled to the platform (22) (p. 7, lines 10-17);

- a buckle (204) coupled to one of the pair of handrails (42) (p. 7, lines 19-26);

- a belt (202) coupled to the other of the pair of handrails (42) and removeably engaged with the buckle (204) (p. 7, lines 19-21), the buckle (204) and the belt (202) having an engaged state and a disengaged state (p. 7, lines 19-26); and

- a user manipulable switch (212) coupled to the electrically operated drive system (220) (via microswitch station 214, up/fold controller 222, down controller 224, and unfold controller

226, See Fig. 5, p. 10, lines 12-18), the switch (212) having an open condition and a closed condition (p. 10, lines 12-15), the drive system (220) incapable of initiating actuation when the switch (212) is in the closed condition and the buckle (204) and belt (202) are in the disengaged state (p. 9, lines 21-23), the drive system (220) capable of initiating actuation when the switch (212) is in the closed condition and the buckle (204) and belt (202) are in the engaged state (p. 10, lines 24-31), and the drive system (220) capable of continuing actuation once begun when the switch (212) is in the closed condition and the buckle (204) and belt (202) are in the disengaged state (p. 9, line 31 – p. 10, line1; p. 10, lines 22-23 and 29-30; p. 11, lines 4-5 and 15-17).

#### **D. Independent Claim 24**

Independent claim 24 is directed to a method of moving a passenger between the ground and a vehicle, the method comprising:

moving the passenger onto a platform (22) coupled to the vehicle (p. 2, lines 29-32; p. 12, lines 12-18);

buckling a seatbelt (202, 204) about the passenger (p. 2, line 32 – p. 3, line 2; p. 7, lines 18-23);

actuating a switch (212, also some switches of microswitch station 214) to operate an electrical motive source (12, also “drive means” 220) coupled to the platform (p. 10, lines 6-18), the motive source (12) inoperable to move the platform (22) from an at rest position without the seatbelt (202, 204) fastened (p. 9, lines 21-23) and operable to move the platform (22) from an at rest position with the seatbelt (202, 204) fastened (p. 10, lines 24-31), the motive source (12) capable of being continually operable as the platform (22) is moving regardless of the seatbelt being fastened (p. 9, line31 – p. 10, line1; p. 10, lines 22-23 and 29-30; p. 11, lines 4-5 and 15-17);

powering the motive source (12) (p. 9, lines 24-28);

lifting the platform (22) and the passenger between the ground and the vehicle (p. 9, lines 28-21); and

moving the passenger off the platform (22) (p. 2, line 29 – p. 3, line 2, p. 12, lines 15-17).

## **VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

- A. Whether claims 1-24 are unpatentable under 35 U.S.C. § 103(a) over U.S. Patent No. 5,373,915 (“Tremblay”) in view of U.S. Patent No. 4,785,906 (“Kang”).

## **VII. ARGUMENT**

### **A. REJECTIONS UNDER 35 U.S.C. § 103(A) OVER TREMBLAY IN VIEW OF KANG.**

For the reasons set forth below, Applicants respectfully submit that the combination of Tremblay and Kang is improper and therefore cannot render the claimed invention obvious. In support of this position, Applicants have previously submitted, and submit herewith as Appendix A the **DECLARATION OF JAMES R. PIERROU PURSUANT TO 37 C.F.R. § 1.132** (the “Pierrou Decl.”).

In its recent landmark decision on obviousness, the Supreme Court rejected the Federal Circuit’s rigid application of the “teaching, suggestion, motivation” test. *KSR International Co. v. Teleflex Inc.*, 550 U.S. \_\_\_, 127 S.Ct. 1727, 82 U.S.P.Q.2d 1385 (2007). In doing so, the Supreme Court reemphasized the “expansive and flexible” approach set forth in *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 148 U.S.P.Q. 459 (1966). Importantly for purposes of this Appeal, the Court also reaffirmed that the “expansive and flexible” approach necessarily includes looking to secondary considerations when appropriate. 127 S.Ct. at 1739.

The objective result of *KSR* was that the Supreme Court held the patentee’s claims invalid as an obvious combination of prior art devices. There are two aspects of the present application and its prosecution history that distinguish it from the specific facts of *KSR*. First, the patentee in *KSR* (Teleflex) offered no secondary considerations to rebut the determination that its claims were obvious. *Id.* at 1745. Applicants have provided ample evidence of a number of secondary factors that would clearly rebut a *prima facie* case of obviousness, assuming for the sake of argument one was properly made. *See, e.g.*, the Pierrou Decl. (Appendix A). Second, a major part of the error attributed to the Federal Circuit’s reasoning was its determination that the

prior art references at issue could not be combined because they were not designed to solve the same problem. *See, Id.* at 1742. As mentioned above, in this case, Tremblay and Kang are both dedicated to solving the same general problem, i.e., improving safety. Notably however, they reach *completely divergent solutions* with regard to the specific teachings the Examiner relies upon to support the obviousness rejection. This is one of the primary reasons why the combination of Tremblay and Kang proposed by the Examiner is improper.

**1. Claims 1-10 and 15-23.**

Claims 1, 7-9, 15, and 20-22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Tremblay (U.S. Patent No. 5,373,915) in view of Kang (U.S. Patent No. 4,785,906). Claims 2, 3, 5, 6, 16, 18, and 19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Tremblay in view of Kang and further in view of Goodrich (U.S. Patent No. 5,261,779). Claims 4 and 17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Tremblay in view of Kang and further in view of DuPuy et al. (U.S. Patent No. 6,238,169). Claims 10 and 23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Tremblay in view of Kang and further in view of Budd et al. (U.S. Patent No. 6,077,025).

The foundation of each rejection under 35 U.S.C. § 103(a) presented by the Examiner is the combination of Tremblay and Kang. Applicants respectfully submit that any rejection based upon a combination of Tremblay and Kang is improper.

Claim Language:

For purposes of this Appeal, independent claims 1 and 15, and their dependent claims, may be considered as a group.

Independent claim 1 recites:

An assembly capable of moving a passenger from a first surface to an adjacent second surface wherein the surfaces are located at different vertical levels, the assembly comprising:  
an electrical system;

- a platform moveable to transport the passenger between the surfaces, the platform having an inboard end, an outboard end, and two opposing sides, the inboard end closer to the first surface than the outboard end;
- an arm coupled to the platform and to the first surface, the arm moveable to transfer the platform between the surfaces;
- a passenger support located above the platform;
- a safety restraint system coupled to the passenger support, the safety restraint system comprising:
  - a belt coupled to the passenger support in a first location;
  - a buckle releasably engagable with the belt and coupled to the passenger support in a second location;
  - a current path having an open state and a closed state defined in part upon the releasable engagement between the buckle and the belt, the current path closed upon engagement between the buckle and the belt; and
- a motive source coupled to the electrical system and operable to move the arm, **the motive source incapable of initiating movement of the arm when the current path is open and capable of initiating movement when the current path is closed, the motive source capable of continuing movement of the arm regardless of the current path state within the buckle once movement is initiated.** (emphasis added)

Independent claim 15 recites:

- A lift mountable onto a vehicle for transporting a passenger between the floor of the vehicle and the street, the lift comprising:
  - a platform coupled to the vehicle and moveable between the floor and the street, the platform having an inboard and an outboard end, the inboard end closer to the floor than the outboard end;
  - a linkage defined in part by two arms pivotally coupled between the platform and the floor;
  - an electrically operated drive system coupled to the linkage and actuatable to move the linkage;
  - a pair of handrails coupled to the platform;
  - a buckle coupled to one of the pair of handrails;
  - a belt coupled to the other of the pair of handrails and removeably engaged with the buckle, the buckle and the belt having an engaged state and a disengaged state; and
  - a user manipulable switch coupled to the electrically operated drive system, the switch having an open condition and a closed condition, **the drive system incapable of initiating actuation when the switch is in the closed condition and the buckle and belt are in the disengaged state, the drive system capable of initiating actuation when the switch is in the closed condition and the buckle and belt are in the engaged state, and the drive system capable of continuing actuation once begun when the switch is in the closed condition and the buckle and belt are in the disengaged state.** (emphasis added)



As shown by Applicants' emphasis, the key limitations relevant to this Appeal relate to the ability of the assembly or lift to, subsequent to initiation of movement, continue such movement even if there is a change in state of the current path (claim 1) or if the belt and buckle become disengaged (claim 15). The Examiner concedes that Tremblay does not teach or suggest this feature. The Examiner therefore relies upon the teachings of Kang in an effort to cure this deficiency.

The Prior Art:

Tremblay teaches a vehicular passenger lift with an electric safety interlock to prevent *all movement* of the lift unless a restraining belt is fastened. See, e.g., Tremblay, Abstract and col. 2, lines 49-51. Fig. 2 of Tremblay illustrates the safety interlock, which includes handrails 60, 62. A buckle 64 is connected to the end of the handrail 60, and a flexible strap 68 is coupled to the other handrail 62. The flexible strap 68 terminates in a tab 70 which matingly interlocks with the buckle 64. Tremblay, col. 4 line 65 through col. 5 line 14. The buckle 64 includes a normally open electric switch located inside the buckle 64. When the tab 70 is inserted in the buckle 64, an electrical circuit is completed through the switch 73. The circuit is designed so that the main control power of the lift passes through the switch. In this way, all lift functions are disabled when the restraint belt is not fastened. Tremblay, col. 5, lines 39-45.

Tremblay repeatedly explains that *all* lift functions, including initiation of movement and continuation of movement, are disabled when the restraint belt is not fastened. The goal of Tremblay is to improve the safety of transported lift passengers, which is the "most important" aspect of passenger lift design. Tremblay, col. 1, lines 30-31.

"The *safety of passengers* being transported on [my] lift is significantly increased by an electronic safety inter-lock included in the buckle. The electric safety interlock prevents *all* movement of the lift, until the restraining belt is fastened."

Tremblay, col. 2, lines 47-51.

“The circuit is designed so that the main control power of the lift passes through the switch. In this way, *all* lift functions are disabled when the restraint belt is not fastened.”

Tremblay, col. 5, lines 42-45.

“[T]he circuit cannot be completed until the normally open switch 98 is also closed. Accordingly, the “up” circuit *only* can be completed and the platform raised when the buckle and tab are interlocked.”

Tremblay, col. 5, lines 65-68.

“Again however, the circuit can *only* be completed and the platform lowered when the normally open switch 98 is closed, i.e. when the buckle and tab are interlocked.”

Tremblay, col. 6, lines 9-12.

“A normally open electrical switch is located inside the buckle. The switch is operatively connected to the main control power circuit. When the switch is open, i.e. when the belt is not buckled, *all* lift functions are disabled. When the tab is inserted, the switch is closed and the lift functions actuated.”

Tremblay, col. 6, lines 32-36.

(emphasis added)

Clearly, the problem addressed by Tremblay is the improvement of safety in vehicular wheelchair lifts. Tremblay solves this problem by preventing all movement of the lift whenever a safety restraint is not secured.

Kang is directed to a seat belt buckle having a built-in microswitch for use in a *vehicle*. The vast majority of the Kang specification is directed to the structural features of the seat belt, such as how the microswitch 9 is mounted with the buckle body 1, and how inserting the

fastening ring 13 into the buckle body 1 actuates the microswitch 9. Almost in passing, Kang discloses that the “microswitch 9 is electrically interconnected with the ignition switch and the starter motor,” and that “the engine cranks only ... after buckling the seat belt 15.” (Kang, col. 2, lines 27-30). In the portion of the specification specifically relied upon by the Examiner, Kang states that “[a]fter the engine is once cranked, it will continue to run, and said seat belt 15 can be unbuckled, allowing the vehicle to start, be driven and stopped.” (Kang, col. 2, lines 55-57). Kang provides no further detail or explanation regarding how the microswitch 9 is “electrically interconnected” to the vehicle wiring, or how it achieves its stated method of operation.

Like Tremblay, the problem addressed by Kang is the improvement of passenger safety (“It is [an] object of the invention to safeguard the life of drivers to the utmost...”, Kang, col. 1, lines 31-32). Unlike Tremblay, which is directed to a safety restraint system for passenger lifts, Kang’s system is directed to vehicular seat belts.

#### Arguments

Much of the content found in the following numbered arguments was previously presented in response to the Office Action dated October 4, 2007. The Examiner dismissed these arguments and issued the final Office Action dated May 8, 2008, which prompted the present appeal. The Examiner’s rejection of claims 1-10 and 15-23 under 35 U.S.C. § 103(a) is improper for at least the following reasons:

#### **1. THE EXAMINER HAS FAILED TO CONSIDER THE INVENTION AS A WHOLE.**

In determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious. *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983); *Schenck v. Nortron Corp.*, 713 F.2d 782, 218 USPQ 698 (Fed. Cir. 1983) (Claims were directed to a vibratory testing machine (a hard-bearing wheel balancer) comprising a holding structure, a base structure, and a supporting means which form “a single integral and gaplessly continuous piece.” *Nortron* argued the invention is

just making integral what had been made in four bolted pieces, improperly limiting the focus to a structural difference from the prior art and failing to consider the invention as a whole. The prior art perceived a need for mechanisms to dampen resonance, whereas the inventor eliminated the need for dampening via the one-piece gapless support structure. "Because that insight was contrary to the understandings and expectations of the art, the structure effectuating it would not have been obvious to those skilled in the art." 713 F.2d at 785, 218 USPQ at 700 (citations omitted). (MPEP 2141.02 I.)

As evidenced by, among other things, the Advisory Action dated April 20, 2007, in which the Examiner noted that "alarm systems" were commonly known as being capable of continuing operation once activated, the Examiner has consistently failed to view the invention as a whole. The claims are directed to an assembly for moving a passenger between first and second surfaces (claim 1), and a lift for transporting a passenger between a vehicle floor and the street (claim 15) that allows movement of the assembly/lift, once begun, to continue regardless of whether a current path defined by the releasable engagement of the safety restraint (e.g. the belt and buckle) is opened or closed. In the final Office Action that prompted this Appeal, the Examiner argues only that it would have been obvious in view of Kang to make the system of Tremblay capable of continuing movement/actuation to facilitate safety. Final Office Action at ¶¶ 14-15, 26-27, 37-38, 46-48. In doing so, the Examiner limits the obviousness inquiry to a single operational difference between the claimed invention and the prior art, and fails to consider the claimed invention as a whole.

As taught by Tremblay, enhanced safety purportedly requires that if the restraint is not fastened, all movement of the passenger lift must be prevented, whereas the inventors of the claimed invention discovered that it is actually better to allow continued operation of the passenger lift, once begun, to avoid the *previously unrecognized* problem of stranding a lift passenger in a partially elevated position. See, Pierrou Decl. at ¶¶ 16-19; See also ¶ 0007 Applicant's specification. Specifically, the inventors recognized that if a passenger is positioned on the lift while it is moving between the vehicle floor and the ground, and if during that time there is an electrical short or other failure of the circuitry associated with the safety restraint, it would be far better for operation of the lift to continue. Pierrou Decl. at ¶¶ 17, 18. This is important because it prevents the passenger (often wheelchair-bound) from being stranded in an

elevated position on an essentially inoperable lift. Although Kang teaches a *vehicle* that is capable of continuing operation if the seat belt comes unbuckled, as discussed further herein, one of skill in the *relevant art* of *passenger lifts* at the time of the invention would have followed the teachings of Tremblay, not the teachings of Kang. *See*, Section 4, below; *See also*, Pierrou Decl. ¶¶ 13-15).

Because the insight provided by the inventors was clearly “contrary to the understandings and expectations of the art” (e.g., the teachings of Tremblay and other prior art cited by the Examiner) at the time of the invention, developing a restraint system for a passenger lift capable of continuing operation in the manner claimed would not have been obvious to one of ordinary skill in the art. MPEP 2141.02 I.. The Examiner’s rejection of the claims 1-10 and 15-23 under 35 U.S.C. § 103(a) is therefore improper.

## **2. REFERENCES CANNOT BE COMBINED WHERE REFERENCES TEACH AWAY FROM THEIR COMBINATION.**

It is improper to combine references where the references teach away from their combination. *In re Grasselli*, 713 F.2d 731, 743, 218 USPQ 769, 779 (Fed. Cir. 1983) (The claimed catalyst which contained both iron and an alkali metal was not suggested by the combination of a reference which taught the interchangeability of antimony and alkali metal with the same beneficial result, combined with a reference expressly excluding antimony from, and adding iron to, a catalyst.). (MPEP 2145 X. D. 2.)

Tremblay expressly and repeatedly teaches that the safety of his passenger lift is “significantly increased” because the electrical interlock of the restraint belt prevents *all movement* of the lift when the restraining belt is unbuckled. *See, e.g.*, Tremblay at col. 2:47-51; col. 5:42-45, 65-68; and col. 6:9-12, 32-36; *See also*, Pierrou Decl. at ¶¶ 10-12. Tremblay explicitly cites enhanced safety as the motivation behind his improvement to wheelchair lifts.

Kang is directed to an interlock system for the seat belt of a *vehicle* and teaches exactly the opposite. Kang teaches that the vehicle, once started, will continue to run even if the seat belt is unbuckled. Although Kang does not expressly state why his system is configured this way, common sense alone reveals that shutting down the vehicle because a seat belt comes unfastened during operation would present an extremely dangerous situation. For example,

Kang explains that his system allows the vehicle “to start, be driven, *and stopped*” (emphasis added) if the seat belt is unbuckled. Kang, col. 2, lines 55-57.

The teachings of Tremblay expressly exclude a system that would allow continued operation of the lift, such as the system proposed by the Examiner in combining Tremblay with Kang. According to Tremblay, a lift that does not prevent *all movement* unless the restraining belt is fastened would be unsafe.

The Examiner specifically responded to this argument in the Final Office Action by stating that “a statement indicating the desirability of having a system that would allow continued operation of the lift in no way criticizes, discredits, or otherwise discourages the solution claimed.” Final Office Action at ¶ 12. This reasoning is unsupported by the disclosure of Tremblay. Tremblay does not state or even suggest “the desirability of having a system that would allow continued operation of the lift” as the Examiner contends. Tremblay states, in no uncertain terms, that *all movement* of the lift must be stopped if the restraining belt is not fastened. Furthermore, Tremblay criticizes, discredits, and discourages the claimed solution of allowing lift movement when the safety restraint is not fastened as being unsafe. “To be effective, passenger lifts must be reliable, cost effective and, *most importantly*, safe.” Tremblay, col. 1, lines 29-31 (emphasis added). “The safety of passengers being transported on [my] lift is significantly increased by an electric safety interlock [that] prevents all movement of the lift until the restraining belt is fastened.” Tremblay, col. 2, lines 47-51. Because Tremblay teaches away from the combination of Tremblay and Kang proposed by the Examiner, the combination is improper. MPEP 2145 X. D. 2..

### **3. WHERE THE TEACHINGS OF THE PRIOR ART CONFLICT, THE EXAMINER MUST WEIGH THE SUGGESTIVE POWER OF EACH REFERENCE**

The test for obviousness is what the combined teachings of the references would have suggested to one of ordinary skill in the art, and all teachings in the prior art must be considered to the extent that they are in analogous arts. Where the teachings of two or more prior art references conflict, the examiner must weigh the power of each reference to suggest solutions to one of ordinary skill in the art, considering the degree to which one reference might accurately discredit another. *In re Young*, 927 F.2d 588, 18 USPQ2d 1089 (Fed. Cir. 1991). (MPEP 2143.01 II.)

Although Tremblay and Kang are both directed to the improvement of safety, the references are in direct conflict with one another. Tremblay teaches a system (i.e. a passenger lift) that prevents *all movement* upon disengagement of a safety restraint, whereas Kang teaches a system (i.e. a vehicle) that allows for continued operation upon disengagement of a safety restraint. In the context of the claimed invention (i.e. passenger lifts), the teachings of Tremblay would clearly outweigh the teachings of Kang when viewed by one skilled in the art looking to enhance the safety of a passenger lift. *See*, Pierrou Decl. at ¶ 15. When compared to one another, the teachings of Tremblay, because they relate specifically to passenger lifts, would carry significantly more suggestive power to one of ordinary skill in the art of passenger lifts than the teachings of Kang, which relate to seat belts for vehicles. In fact, Tremblay *was aware* of automotive seatbelt systems such as those taught by Kang, and deemed such systems *unsuitable* for use in passenger lifts, electing instead to develop a system in which *all* lift movement would be prevented if the safety restraint was not fastened. *See*, Tremblay, col. 2 lines 22-25. For these reasons, and as stated by Mr. Pierrou, one of skill in the art viewing Kang in light of Tremblay would dismiss the teachings of Kang as inapplicable to and inappropriate for the design of a restraint system for a passenger lift. Pierrou Decl. at ¶ 15.

In Final Office Action, the Examiner responds to the arguments presented immediately above by pointing out that there is no requirement that an express written suggestion to combine must appear in the references themselves. Final Office Action at ¶ 75. Applicants agree, and fully appreciate that a suggestion to combine references may come from “knowledge generally available to one of ordinary skill in the art.” In this case, however, the Examiner has failed to identify what “generally available” knowledge would have prompted the Examiner’s proposed combination, let alone prompted one skilled in the art to *ignore* the teachings of Tremblay in favor of the teachings of Kang.

Also in the Final Office Action, the Examiner asserts that “the nature of the problem to allow the vehicle to be driven and stopped after the belt is unbuckled as taught by Kang” suggests combining Tremblay and Kang. Final Office Action at ¶ 75. This is simply not the case. The “nature” of that problem is that it would be remarkably unsafe for a vehicle to completely cease operation if the operator’s seat belt came unbuckled during operation. In contrast, at the time of the invention, the “generally available knowledge” in the art of passenger

lifts was to follow the explicit teachings of Tremblay, i.e., all motion should be halted whenever the safety restraint was not fastened. *See*, Argument 4, directly below, *see also*, Pierrou Decl. at III. At the time of the invention, there would have been no apparent advantage or benefit to implementing the vehicular safety restraint system of Kang in place of Tremblay's dedicated passenger lift restraint system that was widely accepted within the industry. *See*, KSR, 127 S.Ct. at 1744. It was only after the inventors discovered the *previously unrecognized* problem of potentially stranding a lift-occupant on a partially elevated lift that the advantages of such a system became clear and the claimed invention began to take shape. Pierrou Decl. at ¶¶ 17-19. "Patentability shall not be negated by the manner in which the invention was made." 35 U.S.C. § 103(a).

The Examiner's rejection under § 103(a) is predicated on the notion that one of skill in the art of *passenger lifts* would choose to follow the teachings of Kang over the teachings of Tremblay. As discussed above, in the context of passenger lifts, the teachings of Tremblay in fact discredit the teachings of Kang, and would have carried far more suggestive power to one skilled in the art of passenger lifts at the time of the invention. The combination of Tremblay and Kang proposed by the Examiner is therefore improper. MPEP 2143.01 II. and MPEP 2145 X. D. 2..

#### **4. AT THE TIME OF THE INVENTION, THE INVENTORS WERE PROCEEDING CONTRARY TO THE ACCEPTED WISDOM IN THE ART.**

The totality of the prior art must be considered, and proceeding contrary to accepted wisdom in the art is evidence of nonobviousness. *In re Hedges*, 783 F.2d 1038, 228 USPQ 685 (Fed. Cir. 1986) (Applicant's claimed process for sulfonating diphenyl sulfone at a temperature above 127°C was contrary to accepted wisdom because the prior art as a whole suggested using lower temperatures for optimum results as evidenced by charring, decomposition, or reduced yields at higher temperatures.). (MPEP 2145 X. D. 3.)

In addition to citing Tremblay, discussed at length above, the Examiner has also cited U.S. Patent No. 6,077,025 (Budd et al.) in rejecting claims 10, 14, and 23. Budd and Tremblay are both directed to passenger/wheelchair lifts and are classified in the same two classes and subclasses within the Manual of Patent Classification.



Budd teaches a wheelchair barrier or restraint system that in some embodiments includes “a safety interlock switch circuit *which prevents lift platform motion* when the gate barrier is open.” (See Budd, Abstract). Budd’s system differs from Tremblay’s in that the safety barrier taught by Budd is usually positioned in the vehicle doorway (rather than on the lift platform) to prevent wheelchairs from rolling out of the vehicle when the platform is in the lowered position. (See Budd, col. 3, lines 21-25). However, Budd does disclose that the safety barrier may also be positioned on the platform itself. (See Budd, col. 3, lines 30-32). Embodiments that do not include an electronic interlock that prevents all platform movement when the gate barrier is open are instead provided with a mechanical interlock that prevents the gate from opening whenever the platform is not in the raised position. (See e.g., Budd, col. 6, lines 54-56).

Like Tremblay, Budd teaches that all lift movement is prevented whenever the barrier is not closed and the platform is not in a fully elevated position, such as during platform movement. Budd teaches the use of a spring-type interlock switch or “kill switch” that opens whenever the barrier is moved to an intermediate or open position. When the switch opens, the lift power source or hydraulic pumps are shut off, thereby preventing or “arrest[ing]” (i.e., stopping once started) further movement of the lift. (See Budd, col. 6, lines 25-53; col. 12, lines 15-28, 41-45; col. 13, lines 20-50). Although Budd disparages Tremblay’s use of a belt as a barrier (See Budd, col. 2, lines 15-31), favoring “café-style” P-shaped barriers, Budd’s interlock system is configured to operate in precisely the same manner as the interlock system of Tremblay, namely, to prevent all lift movement when the safety barrier/belt is not closed or secured.

Budd was filed approximately 5 years after Tremblay issued as a patent, and issued about 2 years before the filing of the present application. As Budd, Tremblay, and the Pierrou Decl. make clear, the accepted wisdom in the passenger lift industry prior to the present invention was to prevent *all movement* of the lift whenever certain safety conditions, particularly the fastening or closure of a safety barrier, were not met. (See, e.g., Budd, col. 13, lines 22-25; Tremblay col. 2 lines 47-51, col. 5 lines 42-45 and 65-68, and col. 6 lines 9-12 and 32-36; Pierrou Decl. at ¶¶ 16, 17). That the inventors proceeded contrary to the accepted wisdom of the art is further evidence of non-obviousness with respect to the claimed invention. MPEP 2145 X. D. 3..

**5. THE COMBINATION OF TREMBLAY AND KANG IS INSUFFICIENT TO RENDER THE CLAIMS *PRIMA FACIE* OBVIOUS BECAUSE THE PROPOSED MODIFICATION CHANGES THE PRINCIPLE OF OPERATION OF THE TREMBLAY REFERENCE.**

If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959) (Claims were directed to an oil seal comprising a bore engaging portion with outwardly biased resilient spring fingers inserted in a resilient sealing member. The primary reference relied upon in a rejection based on a combination of references disclosed an oil seal wherein the bore engaging portion was reinforced by a cylindrical sheet metal casing. Patentee taught the device required rigidity for operation, whereas the claimed invention required resiliency. The court reversed the rejection holding the "suggested combination of references would require a substantial reconstruction and redesign of the elements shown in [the primary reference] as well as a change in the basic principle under which the [primary reference] construction was designed to operate." 270 F.2d at 813, 123 USPQ at 352.). (MPEP 2143.01 VI.)

The claims currently at issue are directed to an assembly for moving a passenger between first and second surfaces (claim 1), a lift for transporting a passenger between a vehicle floor and the street (claim 15) that allows movement of the assembly/lift, once begun, to continue regardless of whether a current path defined by the releasable engagement of the safety restraint (e.g. the belt and buckle) is opened or closed. Tremblay, the primary reference of the Examiner's rejection, discloses a passenger lift system wherein *all movement* of the lift is prevented if the safety restraint is not fastened. Tremblay teaches that if the restraint is not fastened, all movement must be prevented for safety, whereas the claimed invention requires that once begun, movement is allowed to continue.

The Examiner has proposed modifying Tremblay in view of the teachings of Kang to arrive at the claimed invention. Not only would the Examiner's proposed combination require a substantial reconstruction and redesign of the Tremblay device (compare, for example, Fig. 5 of Tremblay with Fig. 4 of the application), but it would completely change the basic principle under which Tremblay is designed to operate. Rather than halting all lift movement when the

safety restraint is unfastened during movement, movement would instead be allowed to continue. For this reason, the combined teachings of the references are insufficient to render the claims *prima facie* obvious. (MPEP 2143.01 VI.). The Examiner's rejection of claims 1-10 and 15-23 under 35 U.S.C. § 103(a) is therefore improper.

### Conclusion

For the reasons stated above, the Examiner has failed to establish a *prima facie* case of obviousness, and the proposed combination of Tremblay and Kang is improper. Applicants therefore respectfully request reversal of the Examiner's rejection of claims 1-10 and 15-23 under 35 U.S.C. § 103(a).

## **2. Claims 11-14.**

Claims 11-13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Tremblay in view of Kang. Claim 14 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Tremblay in view of Kang and further in view of Budd.

The foundation of each rejection under 35 U.S.C. § 103(a) presented by the Examiner is the combination of Tremblay and Kang. Applicants respectfully submit that any rejection based upon a combination of Tremblay and Kang is improper.

### Claim Language:

For the purposes of this Appeal, independent claim 11 and its dependent claims 12-14, may be considered as a group.

Independent claim 11 recites:

A safety restraint system usable with an electrically operated lift system, the safety restraint system comprising:

a belt; and

a buckle releasably engagable with the belt and having a current path defined within the buckle and coupled to the electrically operated lift system, the current path having an open state and a closed state defined in part upon the releasable engagement between the buckle and the belt, the current path closed

**upon engagement between the buckle and the belt, the electrically operated lift system incapable of initiating movement when the current path is open and capable of initiating movement when the current path is closed, the electrically operated lift system capable of continuing movement regardless of the current path state within the buckle once movement is initiated.**  
(emphasis added)

#### The Prior Art:

Tremblay and Kang are discussed above. Budd is also discussed above and supports Applicant's contention that at the time of the invention, the knowledge generally available to one skilled in the art would have led away from the combination of Tremblay and Kang proposed by the Examiner. The Examiner relies upon Budd only in the rejection of claim 14, for the purpose of teaching an alarm system on a wheelchair lift.

#### Arguments

Claim 11 is directed to a safety restraint system for use with an electrically operated lift system. The restraint system includes a current path coupled to the electrically operated lift system in a manner such that the lift system is incapable of initiating movement when the current path is open, capable of initiating movement when the current path is closed, and capable of continuing movement regardless of the current path state once movement is initiated. In ¶ 27 of the Final Office Action, the Examiner states, with no support whatsoever, that it would have been obvious to make the electrically operated lift system disclosed by Tremblay capable of continuing movement regardless of the current path state within the buckle once movement is initiated as taught by Kang to facilitate safety of the passenger lift.

The Examiner appears to suggest that the motivation for this combination is to facilitate safety of the passenger lift. Among other things, this ignores the teachings of Tremblay, including that the safety of passengers, which is the "most important[]" aspect of any passenger lift, is "significantly increased" by preventing all movement if a safety restraint is not fastened. Tremblay, col. 1, lines 30-31, col. 2, lines 47-51. As explained in detail above, references cannot be combined where the references teach away from their combination. *In re Grasselli*. Furthermore, where the teachings of the prior art conflict, as is clearly the case here, the Examiner must weigh the suggestive power of each reference. *In re Young*. Among other reasons, because Tremblay deals specifically with passenger lifts, one skilled in the art of

passenger lifts seeking to facilitate safety of a new lift would recognize far greater suggestive authority in the passenger-lift-specific teachings of Tremblay than the vehicle-specific teachings of Kang. *See*, Pierrou Decl. ¶¶ 13-15. The Examiner has not offered any explanation why one skilled in the art of passenger lifts would have been motivated to ignore the teachings of Tremblay and follow instead the teachings of Kang. “[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *In re Kahn*, 441 F. 3d 977, 988 (CA Fed. 2006) cited with approval in *KSR*.

### Conclusion

For these and other reasons, including those discussed above with regard to claims 1-10 and 15-23, the Examiner has failed to establish a *prima facie* case of obviousness, and the proposed combination of Tremblay and Kang is improper. Applicants therefore respectfully request reversal of the Examiner’s rejection of claims 11-14 under 35 U.S.C. § 103(a).

### **3. Claim 24.**

Claim 24 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Tremblay in view of Kang. Applicants respectfully submit that any rejection based upon a combination of Tremblay and Kang is improper.

### Claim Language:

Independent claim 24 recites:

A method of moving a passenger between the ground and a vehicle, the method comprising:  
moving the passenger onto a platform coupled to the vehicle;  
buckling a seatbelt about the passenger;  
actuating a switch to operate an electrical motive source coupled to the platform, **the motive source inoperable to move the platform from an at rest position without the seatbelt fastened and operable to move the platform from an at rest position with the seatbelt fastened, the motive source capable of being continually operable as the platform is moving regardless of the seatbelt being fastened;**  
powering the motive source;

lifting the platform and the passenger between the ground and the vehicle;  
and  
moving the passenger off the platform. (emphasis added)

#### The Prior Art:

Tremblay and Kang are discussed above.

#### Arguments

Claim 24 is directed to a method of moving a passenger between the ground and a vehicle. The method includes actuating a switch to operate an electrical motive source that is inoperable to move a platform from an at rest position without a seatbelt fastened and operable to move the platform from an at rest position with the seatbelt fastened. The motive source is capable of being continually operable as the platform is moving regardless of the seatbelt being fastened. As with the rejection of claim 11 discussed above, in ¶ 47 of the Final Office Action, the Examiner states, with no support whatsoever, that it would have been obvious to make the drive system disclosed by Tremblay capable of continuing actuation once begun when the switch is in the closed condition and the buckle and belt are in the disengaged state as taught by Kang to facilitate safety of the passenger lift. Once again, the Examiner ignores the fact that this proposed combination is in direct conflict with the teachings of Tremblay, which are directed specifically to passenger lifts. References cannot be combined where the references teach away from their combination. *In re Grasselli*. Where the teachings of the prior art conflict, as is clearly the case here, the Examiner must weigh the suggestive power of each reference. *In re Young*. One skilled in the art of passenger lifts seeking to facilitate safety of a new lift would recognize far greater suggestive authority in the passenger-lift-specific teachings of Tremblay than the vehicle-specific teachings of Kang. *See*, Pierrou Decl. ¶¶ 14, 15.

#### Conclusion

For these and other reasons, including those discussed above with regard to claims 1-11 and 15-23, the Examiner has failed to establish a *prima facie* case of obviousness, and the proposed combination of Tremblay and Kang is improper. Applicants therefore respectfully request reversal of the Examiner's rejection of claim 24 under 35 U.S.C. § 103(a).

#### 4. Claim 9.

Claim 9 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Tremblay in view of Kang. Applicants respectfully submit that the combination of Tremblay and Kang, in addition to being improper for the reasons discussed above, fails to teach or suggest the subject matter of claim 9.

#### Claim Language

Claim 9 depends from claim 1 and recites:

The assembly as recited in claim 1, wherein the safety restraint system further comprises a lock electrically coupled to the electrical system, the lock preventing disengagement between the belt and the buckle **in response to a signal from the electrical system** during movement of the platform. (emphasis added)

#### The Prior Art

Referring to Figs. 1 and 2, Tremblay teaches a buckle 64 connected to the distal end of one of the handrails 60. One end of a flexible strap 68 is connected to the opposite handrail 60. A tab 70 is coupled to the opposite end of the flexible strap 68 and matingly interlocks with the buckle. Tremblay, col. 5, lines 4-14. When the tab 70 is matingly interlocked with the buckle 64 the strap 66 extends across the lift surface to create a safety restraint. There is no evidence that the tab 70 and buckle 64 disclosed in Tremblay are anything other than a conventional seat belt buckle that is releasable by pushing a push button, lifting a tab, or performing some other manual operation to disengage the tab 70 from the buckle 64.

A normally open electric switch 73 is located inside the buckle 64. When the tab 70 is inserted in the buckle 64, an electrical circuit is completed through the switch 73. The circuit is designed so that the main control power of the lift passes through the switch so that all lift functions are disabled when the restraint belt is not fastened. Tremblay, col. 5, lines 39-45.

#### Arguments

Tremblay does not teach a lock preventing disengagement between the belt and buckle in response to a signal from the electrical system during movement of the platform. The Examiner cites the tab 70 of Tremblay as the claimed lock, and incorrectly asserts that the tab prevents

disengagement between belt 68 and the buckle 64 in response to a signal from the electrical system. Final Office Action at ¶ 20. The tab 70 of Tremblay does not respond to a signal from the electrical system. The causal relationship between the tab 70 and the electric switch 73 is in fact reversed. Specifically, it is the electric switch 73 that changes from the open state to the closed state in response to insertion of the tab 70 into the buckle 64. Kang is not cited by the Examiner against the subject matter of claim 9, and does not cure the above-identified deficiencies of Tremblay. The combination of Tremblay and Kang does not teach or suggest the subject matter of claim 9. The Examiner's rejection of claim 9 under 35 U.S.C. § 103(a) is therefore improper and should be reversed.

#### 5. Claims 13 and 22.

Claims 13 and 22 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Tremblay in view of Kang. Applicants respectfully submit that the combination of Tremblay and Kang, in addition to being improper, as discussed above, fails to teach or suggest the subject matter of claims 13 and 22.

#### Claim Language

For purposes of this Appeal, dependent claims 13 and 22 may be considered as a group.

Claim 13 depends from claim 11 and recites:

The assembly as recited in claim 11, wherein the safety restraint system further comprises a lock coupled to the buckle, **the lock preventing releasable disengagement of the belt from the buckle during movement of the lift system, and allowing releasable disengagement of the belt from the buckle when the lift system is at rest.** (emphasis added)

Claim 22 depends from claim 15 and recites:

The assembly as recited in claim 15, further comprising a lock coupled to the buckle, **the lock preventing releasable disengagement of the belt from the buckle during movement of the platform, and allowing releasable disengagement of the belt from the buckle when the platform is at rest.** (emphasis added)

#### The Prior Art



The buckle 64 and tab 70 arrangement of Tremblay is discussed above.

#### Arguments

Tremblay does not teach a lock that prevents releasable disengagement of the belt from the buckle during movement of the platform, and that allows releasable disengagement of the belt from the buckle when the platform is at rest. According to the Examiner, the tab 70 of Tremblay is able to both prevent and allow releasable disengagement of the belt 68 from the buckle 64. Office Action dated May 8, 2008, pp. 4-5. That cannot be the case. Tremblay does not teach or suggest any structure or feature of the tab 70 that would result in a tab 70 configured to allow releasable disengagement in some circumstances (e.g., when the lift is at rest), while preventing releasable disengagement in other circumstances (e.g. while the lift is moving). Although not specifically disclosed, presumably, when the tab 70 is inserted in the buckle 64 and the button or latch of the buckle 64 is depressed or actuated, the tab 70 will release/disengage from the buckle 64, regardless of whether the lift is moving or not. Thus, unlike the claims, in which the lock prevents releasable disengagement of the belt from the buckle when the lift is moving, the tab 70 of Tremblay is *always* releasably disengageable from the buckle 64.

The Examiner appears to interpret the conventional releasable nature of the buckle 64 and tab 70 as meeting the limitations recited in the claims. In doing so, the Examiner improperly interprets the prior art as including structure that is not disclosed, or improperly ignores the specific language of the claims. The rejection of claims 13 and 22 under 35 U.S.C. § 103(a) is therefore improper and should be reversed.

## VIII. CLAIMS APPENDIX

1. An assembly capable of moving a passenger from a first surface to an adjacent second surface wherein the surfaces are located at different vertical levels, the assembly comprising:

- an electrical system;

- a platform moveable to transport the passenger between the surfaces, the platform having an inboard end, an outboard end, and two opposing sides, the inboard end closer to the first surface than the outboard end;

- an arm coupled to the platform and to the first surface, the arm moveable to transfer the platform between the surfaces;

- a passenger support located above the platform;

- a safety restraint system coupled to the passenger support, the safety restraint system comprising:

- a belt coupled to the passenger support in a first location;

- a buckle releasably engagable with the belt and coupled to the passenger support in a second location;

- a current path having an open state and a closed state defined in part upon the releasable engagement between the buckle and the belt, the current path closed upon engagement between the buckle and the belt; and

- a motive source coupled to the electrical system and operable to move the arm, the motive source incapable of initiating movement of the arm when the current path is open and capable of initiating movement when the current path is closed, the motive source capable of continuing movement of the arm regardless of the current path state within the buckle once movement is initiated.

2. The assembly as recited in claim 1, wherein the platform further comprises side barriers located near the opposing sides and a roll stop located near the outboard end.

3. The assembly as recited in claim 2, wherein the roll stop is biased between two positions, the first position allowing items to be rolled on or off the outboard end and the second position preventing items from rolling on or off the outboard end.

4. The assembly as recited in claim 1, further comprising a bridge plate pivotally coupled to the inboard end of the platform and positionable to bridge a gap between the platform and the first surface.

5. The assembly as recited in claim 1, further comprising an articulated lever assembly coupled to the platform, the lever assembly capable of moving the platform from a substantially horizontal position to a substantially vertical position.

6. The assembly as recited in claim 5, further comprising a pressure switch coupled to the platform, wherein the pressure switch prevents the platform from moving to the vertical position when the passenger is on the platform.

7. The assembly as recited in claim 1, wherein the motive source comprises a hydraulic pump in fluid communication with a hydraulic cylinder coupled to the arm.

8. The assembly as recited in claim 1, wherein the safety restraint system further comprises a current flow control device coupled to the current path, the current flow control device comprising a silicon controlled rectifier diode that controls current flow to the motive source.

9. The assembly as recited in claim 1, wherein the safety restraint system further comprises a lock electrically coupled to the electrical system, the lock preventing disengagement between the belt and the buckle in response to a signal from the electrical system during movement of the platform.

10. The assembly as recited in claim 1, further comprising an alarm coupled to the safety restraint system, the alarm operable to indicate disengagement between the buckle and the belt.

11. A safety restraint system usable with an electrically operated lift system, the safety restraint system comprising:

a belt; and

a buckle releasably engagable with the belt and having a current path defined within the buckle and coupled to the electrically operated lift system, the current path having an open state and a closed state defined in part upon the releasable engagement between the buckle and the belt, the current path closed upon engagement between the buckle and the belt, the electrically operated lift system incapable of initiating movement when the current path is open and capable of initiating movement when the current path is closed, the electrically operated lift system capable of continuing movement regardless of the current path state within the buckle once movement is initiated.

12. The assembly as recited in claim 11, wherein the safety restraint system further comprises a current flow control device coupled to the current path, the current flow control device comprising a silicon controlled rectifier diode that controls current flow to the electrically operated lift system.

13. The assembly as recited in claim 11, wherein the safety restraint system further comprises a lock coupled to the buckle, the lock preventing releasable disengagement of the belt from the buckle during movement of the lift system, and allowing releasable disengagement of the belt from the buckle when the lift system is at rest.

14. The assembly as recited in claim 11, further comprising an alarm coupled to the safety restraint system, the alarm operable to indicate disengagement between the buckle and the belt.

15. A lift mountable onto a vehicle for transporting a passenger between the floor of the vehicle and the street, the lift comprising:

- a platform coupled to the vehicle and moveable between the floor and the street, the platform having an inboard and an outboard end, the inboard end closer to the floor than the outboard end;

- a linkage defined in part by two arms pivotally coupled between the platform and the floor;

- an electrically operated drive system coupled to the linkage and actuatable to move the linkage;

- a pair of handrails coupled to the platform;

- a buckle coupled to one of the pair of handrails;

- a belt coupled to the other of the pair of handrails and removeably engaged with the buckle, the buckle and the belt having an engaged state and a disengaged state; and

- a user manipulable switch coupled to the electrically operated drive system, the switch having an open condition and a closed condition, the drive system incapable of initiating actuation when the switch is in the closed condition and the buckle and belt are in the disengaged state, the drive system capable of initiating actuation when the switch is in the closed condition and the buckle and belt are in the engaged state, and the drive system capable of continuing actuation once begun when the switch is in the closed condition and the buckle and belt are in the disengaged state.

16. The assembly as recited in claim 15, wherein the platform further comprises a roll stop located near the outboard end, the roll stop is biased between two positions, the first position allowing items to be rolled on or off the outboard end and the second position preventing items from rolling on or off the outboard end.

17. The assembly as recited in claim 15, further comprising a bridge plate pivotally coupled to the inboard end of the platform and positionable to bridge a gap between the platform and the vehicle floor.

18. The assembly as recited in claim 15, further comprising an articulated lever assembly coupled to the platform, the lever assembly capable of moving the platform from a substantially horizontal position to a substantially vertical position.

19. The assembly as recited in claim 18, further comprising a pressure switch coupled to the platform, the pressure switch prevents the platform from moving to the vertical position when the passenger is on the platform.

20. The assembly as recited in claim 15, wherein the drive system comprises a hydraulic pump in fluid communication with a hydraulic cylinder coupled to the linkage.

21. The assembly as recited in claim 15, further comprising a current flow control device coupled to the electrically operated drive system, the current flow control device comprising a silicon controlled rectifier diode that controls current flow to the drive system.

22. The assembly as recited in claim 15, further comprising a lock coupled to the buckle, the lock preventing releasable disengagement of the belt from the buckle during movement of the platform, and allowing releasable disengagement of the belt from the buckle when the platform is at rest.

23. The assembly as recited in claim 15, further comprising an alarm coupled to the buckle, the alarm operable to indicate disengagement between the buckle and the belt.

24. A method of moving a passenger between the ground and a vehicle, the method comprising:

moving the passenger onto a platform coupled to the vehicle;

buckling a seatbelt about the passenger;

actuating a switch to operate an electrical motive source coupled to the platform, the motive source inoperable to move the platform from an at rest position without the seatbelt fastened and operable to move the platform from an at rest position with the seatbelt fastened, the motive source capable of being continually operable as the platform is moving regardless of the seatbelt being fastened;

powering the motive source;

lifting the platform and the passenger between the ground and the vehicle; and

moving the passenger off the platform.

**IX. EVIDENCE APPENDIX**

Appendix A is a copy of the Declaration of James R. Pierrou Pursuant to 37 C.F.R. §1.132, filed on January 30, 2008 in connection with the present application.

**X. RELATED PROCEEDINGS APPENDIX**

None.

**XI. CONCLUSION**

In view of the foregoing, reversal of the rejections of claims 1-24 and allowance of claims 1-24 are respectfully requested.

Dated: Sept. 29, 2008

Respectfully submitted,



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Attorney Docket No. 018778-9026-01



## **Appendix A**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
Group Art Unit 3654

In re

Patent Application of

Michael E. Kasten, Jr., et al.

Application No. 10/502,067

Confirmation No. 8571

Filed: September 12, 2005

Examiner: Eric E. Pico

Atty. Docket No.: 018778-9026-01

"SAFETY BELT SYSTEM FOR WHEELCHAIR  
LIFTS"

**DECLARATION OF JAMES R. PIERROU PURSUANT TO 37 C.F.R. § 1.132**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

I, James R. Pierrou, declare as follows:

1. I currently reside at 9769 State Road 14, Winamac, Indiana, 46996, United States of America.
2. I am a Project Engineer with The Braun Corporation ("Braun"), which is the owner of the above-referenced patent application ("Application"). I am also a joint inventor of the subject matter disclosed in the Application.
3. I have an Associate Degree in Machine Design Technology from Tri-State University of Angola, Indiana.

4. I have approximately 16 years of experience in the design and development of wheelchair lifts for vehicles, and consider myself to be one of skill in the art in the field of vehicular access systems for handicapped persons, such as vehicular wheelchair lifts.

5. I have reviewed pending claims 1-24 of the Application as they currently stand based upon the Submission and Amendment Accompanying Request for Continued Examination filed July 3, 2007.

6. I have reviewed the pending Office action dated October 4, 2007, in which the Examiner has rejected claims 1-24 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,373,915 ("Tremblay") in view of U.S. Patent No. 4,785,906 ("Kang"), and, in various combinations, further in view of U.S. Patent Nos. 5,261,779 ("Goodrich"), 6,238,169 ("Dupuy"), and 6,077,025 ("Budd")

7. In the Office action dated October 4, 2007, the Examiner contends that Tremblay discloses an assembly capable of moving a passenger from a first surface to an adjacent second surface wherein the surfaces are located at different vertical levels, the assembly comprising: an electrical system shown in Fig. 5; a platform (referred to as lift surface 30) moveable to transport the passenger between the surfaces, the platform 30 having an inboard end, an outboard end, and two opposing sides, the inboard end closer to the first surface than the outboard end; an arm, referred to as armature 36, 37, coupled to the platform 30 and to the first surface, the arm 36, 37 moveable to transfer the platform 30 between the surfaces; a passenger support referred to as handrail 60, 62, located above the platform; a safety restraint system coupled to the passenger support 60, 62, the safety restraint system comprising: a belt, referred to as flexible strap 68, coupled to the passenger support 62 in a first location; a buckle 64 releasably engagable with the belt 68 and coupled to the passenger support 60 in a second location, the buckle 74 having a current path defined within the buckle 64 and coupled to the electrical system, shown in Figure 5, the current path having an open state and a closed state defined in part upon the releasable engagement between the buckle 64 and the belt 68, the current path closed upon engagement between the buckle 64 and the belt 68; and a motive source coupled to the electrical system and operable to move the arm, the motive source incapable of initiating movement of the arm when the current path is open and capable of initiating movement when the current path is closed.

8. As also stated in the October 4, 2007 Office action, the Examiner admits that Tremblay does not teach a motive source capable of continuing movement of the arm regardless of the current path state within the buckle once movement is initiated. The Examiner contends, however, that Kang teaches a motive source capable of continuing movement of a vehicle regardless of the current path state within a buckle 1 once movement is initiated, and references Column 2, lines 55-57 of Kang. The Examiner then concludes that it would have been obvious to one of ordinary skill in the art at the time of the invention to make the motive source disclosed by Tremblay capable of continuing movement of the arm regardless of the current path state within the buckle once movement is initiated as taught by Kang to facilitate safety of the passenger lift.

9. I have reviewed the Tremblay and Kang references and disagree with the Examiner's contention that the invention claimed in claims 1-24 would have been obvious for the following reasons.

I. **THE TREMBLAY PATENT TEACHES AWAY FROM THE CLAIMED INVENTION**

10. Tremblay repeatedly explains that **all** lift functions are disabled when the restraining belt is not fastened. Tremblay also emphasizes that such a system "significantly increases" the safety of transported passengers, which is of primary importance in the passenger lift industry.

11. For example, Tremblay states:

- a. "The *safety of passengers* being transported on [my] lift is significantly increased by an electronic safety inter-lock included in the buckle. The electric safety interlock prevents *all* movement of the lift, until the restraining belt is fastened."  
Tremblay, col. 2, lines 47-51.
- b. "The circuit is designed so that the main control power of the lift passes through the switch. In this way, *all* lift functions are disabled when the restraint belt is not fastened."  
Tremblay, col. 5, lines 42-45.

- c. "[T]he circuit cannot be completed until the normally open switch 98 is also closed. Accordingly, the "up" circuit *only* can be completed and the platform raised when the buckle and tab are interlocked."

Tremblay, col. 5, lines 65-68.

- d. "Again however, the circuit can *only* be completed and the platform lowered when the normally open switch 98 is closed, i.e. when the buckle and tab are interlocked."

Tremblay, col. 6, lines 9-12.

- e. "A normally open electrical switch is located inside the buckle. The switch is operatively connected to the main control power circuit. When the switch is open, i.e. when the belt is not buckled, *all* lift functions are disabled. When the tab is inserted, the switch is closed and the lift functions actuated."

Tremblay, col. 6, lines 32-36.

12. In my opinion, the teachings of Tremblay recited above would lead one of skill in the art away from the invention claimed in claims 1-24 of the present Application because contrary to the teachings of Tremblay, the claimed invention allows continued movement, actuation, or operation of the lift regardless of whether a safety belt is buckled or a corresponding current path is open. Specifically:

- a. One of skill in the art would be lead away from an assembly capable of moving a passenger from a first surface to an adjacent surface, the assembly including, among other things, a motive source coupled to an electrical system and operable to move an arm, the motive source incapable of initiating movement of the arm when a current path defined within a buckle is open and capable of initiating movement when the current path is closed, the motive source capable of continuing movement of the arm regardless of the current path state within the buckle once movement is initiated as claimed in claim 1.
- b. One of skill in the art would be lead away from a safety restraint system usable with an electrically operated lift system, the safety restraint system including, among other things, a buckle releasably engagable with a belt and having a current path defined within the buckle and coupled to the electrically operated lift system, the electrically operated lift system incapable of initiating movement when the current path is open and capable of initiating movement when the current path is closed, the electrically operated lift system capable of continuing

movement regardless of the current path state within the buckle once movement is initiated as claimed in claim 11.

- c. One of skill in the art would be lead away from a lift mountable onto a vehicle for transporting a passenger between the floor of the vehicle and the street, the lift including, among other things, a user manipulable switch coupled to the electrically operated drive system, the switch having an open condition and a closed condition, the drive system incapable of initiating actuation when the switch is in the closed condition and a buckle and belt are in a disengaged state, the drive system capable of initiating actuation when the switch is in the closed condition and the buckle and belt are in an engaged state, and the drive system capable of continuing actuation once begun when the switch is in the closed condition and the buckle and belt are in the disengaged state as claimed in claim 15.
- d. One of skill in the art would be lead away from a method of moving a passenger between the ground and a vehicle, the method including, among other things, actuating a switch to operate an electrical motive source coupled to a platform, the motive source inoperable to move the platform from an at rest position without a seatbelt being fastened and operable to move the platform from an at rest position with the seatbelt fastened, the motive source capable of being continually operable as the platform is moving regardless of the seatbelt being fastened as claimed in claim 24.

**II. ONE OF ORDINARY SKILL IN THE ART OF PASSENGER LIFTS WOULD NOT LOOK TO COMBINE THE TEACHINGS OF KANG WITH TREMBLAY**

13. The Examiner cites Kang as teaching a motive source capable of continuing movement of a vehicle regardless of the current path state within a buckle once movement is initiated. The relevant sentence of Kang states “[a]fter the engine is once cranked, it will continue to run, and said seat belt 15 can be unbuckled, allowing the vehicle to start, be driven and stopped.” (Kang, col. 2, lines 55-57).

14. Kang teaches a seat belt buckle for a **vehicle**. Although Kang is essentially silent on the reasons why vehicle operation is allowed to continue even if the seat belt comes

unbuckled, the importance of allowing such continued operation goes without saying. Although the seatbelt certainly enhances safety while it is buckled, it would be significantly more unsafe for the car to suddenly cease operation if the belt came unbuckled during operation. In this regard, Tremblay and Kang teach different things. Tremblay teaches that for a *passenger lift*, safety is enhanced by preventing all movement of the lift if the safety belt comes unbuckled, whereas Kang and common sense suggest that for a *vehicle* it is more important to allow continued operation if the safety belt comes unbuckled.

15. In view of the divergent teachings of Tremblay and Kang, it is my opinion that one of skill in the art of *passenger lifts* would follow the teachings of Tremblay because Tremblay specifically addresses passenger lifts. In fact, the teachings of Tremblay would likely lead one of skill in the art to completely dismiss the teachings of Kang as being inapplicable to the design of a restraint system for a passenger lift.

III. **THE OTHER INVENTORS AND I DISCOVERED A PREVIOUSLY UNRECOGNIZED PROBLEM WITH OTHER PASSENGER LIFTS, AND SOLVED THAT PROBLEM BY DEVELOPING THE CLAIMED INVENTION.**

16. As an initial matter, I note that Tremblay is assigned to Ricon Corporation ("Ricon"). Ricon competes with Braun, my employer, in the wheelchair lift industry. Through our employment with Braun, the other inventors and I were familiar with Ricon wheelchair lifts, including lifts that operated in the manner taught by Tremblay, prior to developing the safety belt system for a wheelchair lift that is the subject of the present Application.

17. There was a previously unrecognized problem with passenger lifts like Tremblay's that halt all movement of the lift when the safety belt comes unbuckled. Specifically, if the belt comes unbuckled during operation, or worse, if there is a failure within the corresponding electrical circuit such that the system thinks the belt has come unbuckled during operation, all further operation of the lift is prevented, thereby leaving the lift passenger dangerously stuck in a partially-elevated position and unable to safely reach the vehicle floor or the ground.

18. With regard to a failure of the electrical circuit associated with the safety belt, we recognized that repairing the faulty electrical circuit would likely require replacement parts and/or the services of a skilled technician, neither of which are likely to be readily available when the failure occurs and the lift passenger is stuck in a partially-elevated position. In these circumstances, the lift passenger, who is very likely to be wheelchair-bound, will have to be assisted or somehow removed from the partially-elevated lift platform, presenting a significant potential for a fall or other accident. We further recognized that in the event of a failure of the electrical circuit, there is substantially no additional danger posed by continuing operation of the lift because the safety belt has not, in fact, come unbuckled. Should the electrical failure occur during lift operation, the claimed system is configured so that the lift operator will in all likelihood be completely unaware of the electrical failure, and will simply continue operation of the lift to either the ground level or the vehicle floor level. The electrical circuit failure will then become apparent to the operator when the claimed system prevents operation of the lift the next time the operator attempts to initiate lift movement. For these and other reasons, we developed the lift assembly and safety restraint system of claims 1 and 11, which allow continued movement regardless of the state of a current path associated with the safety belt. Specifically, we developed:

- a. An assembly capable of moving a passenger from a first surface to an adjacent surface, the assembly including, among other things, a motive source coupled to an electrical system and operable to move an arm, the motive source incapable of initiating movement of the arm when a current path defined within a buckle is open and capable of initiating movement when the current path is closed, the motive source capable of continuing movement of the arm regardless of the current path state within the buckle once movement is initiated, as claimed in claim 1.
- b. A safety restraint system usable with an electrically operated lift system, the safety restraint system including, among other things, a buckle releasably engagable with a belt and having a current path defined within the buckle and coupled to the electrically operated lift system, the electrically operated lift system incapable of initiating movement when the current path is open and capable of initiating movement when the current path is closed, the electrically



operated lift system capable of continuing movement regardless of the current path state within the buckle once movement is initiated, as claimed in claim 11.

19. With regard to the belt coming unbuckled during operation, we recognized that in many instances, the time and effort required to rebuckle the safety belt while the lift is in a partially-elevated position, particularly by an individual of limited mobility, may present a more unsafe condition than continuing operation of the lift to either the vehicle floor or the ground with the belt unbuckled. For these and other reasons, we developed the lift for transporting passengers and the method of moving passengers of claims 15 and 24, which allow movement of the lift to continue once initiated even if the safety belt comes unbuckled. Specifically, we developed:

- a. A lift mountable onto a vehicle for transporting a passenger between the floor of the vehicle and the street, the lift including, among other things, a user manipulable switch coupled to the electrically operated drive system, the switch having an open condition and a closed condition, the drive system incapable of initiating actuation when the switch is in the closed condition and a buckle and belt are in a disengaged state, the drive system capable of initiating actuation when the switch is in the closed condition and the buckle and belt are in an engaged state, and the drive system capable of continuing actuation once begun when the switch is in the closed condition and the buckle and belt are in the disengaged state as claimed in claim 15.
- b. A method of moving a passenger between the ground and a vehicle, the method including, among other things, actuating a switch to operate an electrical motive source coupled to a platform, the motive source inoperable to move the platform from an at rest position without a seatbelt being fastened and operable to move the platform from an at rest position with the seatbelt fastened, the motive source capable of being continually operable as the platform is moving regardless of the seatbelt being fastened as claimed in claim 24.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further, that these statements were made with the knowledge that willful false statements and the like are

punishable by fine and imprisonment, or both, under §1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

12-5-07

Date

James R. Pierrou

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